

DII.30B.DEC40.Kernel.VDD-1

Defense Information Infrastructure (DII)

Common Operating Environment (COE)

Version 3.0/B

Version Description Document for the Kernel (Digital UNIX 4.0)

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NOTE: Courier font is used to indicate entries to be typed at the keyboard, UNIX commands, file and directory names, and screen text. For example:

The file is located in the `DII_DEV` directory.

1. System Overview

The Defense Information Infrastructure (DII) Common Operating Environment (COE) will normally make available a large number of segments, not all of which are required for every application. The DII COE Kernel is the minimum set of software required on every workstation regardless of how the workstation will be used. These components include the operating system and windowing services, as well as external environment interfaces. The DII COE Kernel for Digital UNIX 4.0 includes the following components:

- Ⓒ Digital UNIX Operating System
- Ⓒ System Administration function
- Ⓒ Security Administration function (not including Accounts and Profiles)
- Ⓒ Runtime tools
- Ⓒ Commercial Off-the-Shelf (COTS) software [including desktop graphical user interface (GUI) and windowing environment]
- Ⓒ Government Off-the-Shelf (GOTS) software.

These components can be broken down into the following features:

Operating System

Digital UNIX 4.0 Operating System.

System Administration Function

The System Administration function is used to provide the capability to print ASCII text, select and configure printers, perform local queue management, manage print jobs, and close windows; reboot or shut down the system, mount file systems, and format hard drives; load or install segments; and change machine ID, set system time, configure a workstation as either a client or a server, set routing configuration, configure mail on a workstation, and configure Network Information Service (NIS). The system administrator's account group sets the system administrator's environment to execute the functions listed above.

Security Administration Function

The security administrator's account group sets the security administrator's environment.

Runtime Tools

Runtime tools are used to support the segment installation process. The following runtime tools are included on the DII COE 3.0/B Kernel tape:

- C **COEAskUser** (Version 1.0.0.6)—the COEAskUser tool can be called from anywhere to display a message to the user.
- C **COEFindSeg** (Version 1.0.0.6)—the COEFindSeg tool returns information about a requested segment.
- C **COEInstaller** (Version 1.0.0.9)—the COEInstaller tool displays a list of segments that may be installed from tape, disk, or other electronic media. The COEInstaller tool can be run from the command line, as well as from the System Administration pull-down menu.
- C **COEInstError** (Version 1.0.0.6)—the COEInstError tool displays an error to the user. It can be run from the command line, but it is most often called from within a `PreInstall`, `PostInstall`, or `DEINSTALL` script.
- C **COEMsg** (Version 1.0.0.6)—the COEMsg tool displays a message to the user from within a `PreInstall`, `PostInstall`, or `DEINSTALL` script.
- C **COEPrompt** (Version 1.0.0.6)—the COEPrompt tool displays a message to the user and expects the user to enter a response from within a `PreInstall`, `PostInstall`, or `DEINSTALL` script.
- C **COEPromptPasswd** (Version 1.0.0.6)—the COEPromptPasswd tool displays a message to the user and waits for the user to enter a password. The COEPromptPasswd tool can be run from the command line, but it is most often called from within a `PreInstall` or `PostInstall` script.
- C **COEUpdateHome** (Version 1.0.0.4)—the COEUpdateHome tool updates the home environment within a script file to point to where a segment actually was installed.

All of the tools can be run from the command line, and some can be run from other code using published Application Programmer Interfaces (APIs).

The *DII COE Integration and Runtime Specification* provides a description of these tools and their functionality. The *DII COE Programming Guide* also provides examples of how to use some of these tools.

COTS Software

The following COTS software helps to provide the foundation of the DII COE software environment:

- © **X Windows** (Version X11R5)
- © **Motif** (Version 1.2.4)
- © **Common Desktop Environment (CDE)** (Version 4.0)—provides windows, workspaces, controls, indicators, and a front panel to help users organize and manage work.

2. Referenced Documents

The following documents are referenced in this Version Description Document:

- © *Defense Information Infrastructure (DII) Common Operating Environment (COE) Integration and Runtime Specification* Version 2.0, DII COE I&RTS:Rev 2.0, Inter-National Research Institute, October 23, 1995
- © *Defense Information Infrastructure (DII) Common Operating Environment (COE) System Administrator's Guide (HP and Solaris) FINAL* Version 3.0.0.3, DII.3003.Final.UNIX.AG-1, Inter-National Research Institute, October 29, 1996
- © *Defense Information Infrastructure (DII) Common Operating Environment (COE) Version 3.0/B Kernel Installation Guide (Digital UNIX 4.0)*, DII.30B.DEC40.IG-1, Inter-National Research Institute, February 19, 1997
- © *Defense Information Infrastructure (DII) Common Operating Environment (COE) Version 3.0/B Programming Guide (Digital UNIX and AIX)*, DII.30B.DECIBM.PG-1, Inter-National Research Institute, February 19, 1997.

3. Version Description

3.1 Inventory of Materials Released

- © Magnetic media: Two 4mm tapes consisting of a relative tar of the DII COE Kernel, Version 3.0/B (Digital UNIX 4.0)
- © Soft-copy Documentation: One 3.5" floppy diskette (WordPerfect 6.0 for Windows format) containing the *Defense Information Infrastructure (DII) Common Operating Environment (COE) Version 3.0/B Version Description Document for the Kernel (Digital UNIX 4.0)*, Document Control No. DII.30B.DEC40.Kernel.VDD-1, February 19, 1997
- © Hard-copy Documentation: Two hard copies of the aforementioned Version Description Document.

3.2 Software Changes

This delivery contains no software changes.

4. Installation Instructions

Reference the *DII COE Kernel Installation Guide (Digital UNIX 4.0)* for instructions on installing the DII COE Kernel.

5. Kernel Known Problems and Errors

Reference the following table for a list of known problems and errors with the DII COE Version 3.0/B Kernel (Digital UNIX 4.0).

DII COE Version 3.0/B Kernel (Digital UNIX 4.0) Known Problems and Errors	
Total Open Known Problems and Errors: [18]	
INRI Number:	RTO00001397
Agency Number:	None.
Short Description:	Many windows need to be larger.
Long Description:	The following windows need to be larger: COEInstaller ReleaseNotes, Requires, and Conflicts windows; Printer windows; and the Export/Unexport File Systems window. The user must resize these windows each time in order to view or use them.
INRI Number:	RTO00001401
Agency Number:	None.
Short Description:	During deinstallation, the Update Security Database window appears and remains on the screen.
Long Description:	During deinstallation, the Update Security Database window appears and remains on the screen. The user must close the window to continue action and return to the Installer window.
INRI Number:	RTO00001423
Agency Number:	None.
Short Description:	The COEInstaller does not remove patch segments in the proper order.
Long Description:	The COEInstaller does not remove patch segments in the proper order. According to the I&RTS, "The COEInstaller software assumes that higher numbered patches must be removed before a lower numbered patch can be removed." Patches, however, can be removed out of sequence order. This problem is repeatable.

DII COE Version 3.0/B Kernel (Digital UNIX 4.0) Known Problems and Errors	
INRI Number:	RTO00001425
Agency Number:	None.
Short Description:	The Status window, which appears while segments are installing, is missing the letters that are flush left in the box.
Long Description:	The Status window, which appears while segments are installing, is missing the letters that are flush left in the box.
INRI Number:	RTO00001426
Agency Number:	None.
Short Description:	Disk space override defaults to 80 percent instead of the last disk space setting.
Long Description:	Disk space override defaults to 80 percent after the disk space allocation setting has been changed. Once the user changes the disk space limit from the default 80 percent and exits the Override Disk Space Allocation window, the disk space appears to change in the Installer window. However, when the operator returns to the Override Disk Space Allocation window, the selection reverts back to the default 80 percent. The selection should default to the last setting.
INRI Number:	RTO00001427
Agency Number:	None.
Short Description:	Inconsistency with Segment Installation Server "working" windows.
Long Description:	When loading segments onto the Segment Installation Server, an empty "working" window appears with no dialogue. Some "working" windows, however, appear with dialogue. This is inconsistent.
INRI Number:	RTO00001433
Agency Number:	None.
Short Description:	An Installer error message appears after successful installation of an aggregate segment.
Long Description:	When installing an aggregate segment (JMPS), the following error message appeared even though the aggregate segment installed successfully and was listed correctly in the Currently Installed Segments portion of the Installer window: "Segment JMPS for CMP successfully installed. (E) Unable to update InstallerStatus."

DII COE Version 3.0/B Kernel (Digital UNIX 4.0) Known Problems and Errors	
INRI Number:	RTO00001434
Agency Number:	None.
Short Description: Installer Status core files were created after successful installations.	
Long Description: An "Installer Status" core file was created when the following test segments were installed together successfully: INDIA0 (Software type), ALPHA (COTS type), and DELTA (DATA type). Several other core files from the Installer Status have been noted during testing.	
INRI Number:	RTO00001435
Agency Number:	None.
Short Description: When removed with their affected segment, patch segments are not listed in the Installation Log.	
Long Description: When an affected segment is selected for de-installation, but its related patch segments are not selected for de-installation, only the affected segment is listed in the Installation Log following de-installation. All affected segments and all their related patch segments should be listed in the Installation Log if an action is performed on them.	
INRI Number:	RTO00001436
Agency Number:	None.
Short Description: The Installer does not prompt for confirmation for all selected segments that have been previously installed.	
Long Description: When the software segment types INDIA0-12 were installed and INDIA2-5 were selected for re-installation, the Installer only prompted for confirmation of INDIA2. When the operator selected YES, the Installer re-installed all three selected segments even though the other two segments never received a prompt for confirmation.	
INRI Number:	RTO00001437
Agency Number:	None.
Short Description: Required segments must already be installed before loading a dependent segment.	
Long Description: The Network Installation Server does not load a segment that requires other segments at the same time. The required segments must already be installed before loading a dependent segment.	

DII COE Version 3.0/B Kernel (Digital UNIX 4.0) Known Problems and Errors	
INRI Number:	RTO00001438
Agency Number:	None.
Short Description: The Requires and Conflicts buttons do not work on the Network Installation Server.	
Long Description: Using the Network Installation Server, the operator could not check the Requires and Conflicts files of the loaded segments because the buttons do not work.	
INRI Number:	RTO00001439
Agency Number:	None.
Short Description: The SegInfo file contains incorrect platform information for UNIX.	
Long Description: The SegInfo file under /h/COTS/UNIX/SegDescrip still contains SPARC/SOL information in the [Hardware] descriptor for both Digital UNIX and AIX. The descriptor should reflect the appropriate hardware entries. This has no affect on functionality and cannot be viewed anywhere in the system.	
INRI Number:	RTO00001440
Agency Number:	None.
Short Description: DNS issues with changing the local machine IP address to an address beyond the network.	
Long Description: If DNS is set up and the user tries to change the local machine IP address to an address beyond the network (e.g., 255.255.255.255), the system hangs. The user must boot from the AIX CD and then run SMIT to reset the IP address.	
INRI Number:	RTO00001441
Agency Number:	None.
Short Description: The user can change his or her IP address to another address being used on the network.	
Long Description: The user can change his or her IP address to another address being used on the network. No warning appears. Both systems then hang. The user must boot from the AIX CD and then run SMIT to reset the IP address.	

DII COE Version 3.0/B Kernel (Digital UNIX 4.0) Known Problems and Errors	
INRI Number:	RTO00001442
Agency Number:	None.
Short Description: When logging into a terminal emulator window as sysadmin, the following message appears: "resize command not found".	
Long Description: When logging into a terminal emulator window as sysadmin, the following message appears: "resize command not found".	
INRI Number:	RTO00001443
Agency Number:	None.
Short Description: Error message for duplicate IP address is misleading.	
Long Description: The error message that appears when a duplicate host name is entered is "NAME EXISTS." The same message is used when a duplicate IP address is entered, which is misleading. The error message should indicate that the IP address is a duplicate, such as "DUPLICATE ADDRESS."	
INRI Number:	RTO00001444
Agency Number:	None.
Short Description: If the host name is changed using the pull-down button associated with the Host Name field, no error checking occurs.	
Long Description: When the host name is changed using the selection from the pull-down to the right of the Host Name field, no error is presented for selection of an existing host name.	

6. COTS Known Problems and Errors

Reference the following table for a list of COTS known problems and errors for the DII COE Version 3.0/B Kernel (Digital UNIX 4.0).

DII COE Version 3.0/B Kernel (Digital UNIX 4.0) COTS Known Problems and Errors
Total Open Known Problems and Errors: [1]

INRI Number: RTO00000029

Agency Number: None.

Short Description:

When logged in as sysadmin or secman, the user can log into terminal emulator windows without entering a password.

Long Description:

When logged in as sysadmin or secman, the user can log into terminal emulator windows without entering a password by using the File Manager>File>Open Terminal option. This is an issue with CDE.

7. Release Notes

COE Kernel

1. Installation of the Digital UNIX 4.0 Operating System is a *destructive installation* because installation removes any previously installed software. Your disk will be overwritten as part of the installation process and all data will be lost.
2. The C2 security level (auditing feature) is running automatically at installation time.
3. Only the `sysadmin` and `secman` accounts and the SA_Default and SSO_Default profiles are supported.
4. Multi-head and multi-eye configurations are not supported.
5. Classifications cannot be assigned to profiles.
6. Although `localhost` is available for selection in the Change Machine ID window, it *should not* be selected. Selecting `localhost` makes all login accounts inaccessible after the machine is rebooted. The machine must then be booted in single-user mode to correct the problem.
7. The capability to add, change, and delete Accounts and Profiles is not supported in this release.

COEInstaller Tool

1. The `AcctGrp` descriptor supports only one entry.
2. The default tape drive for Digital UNIX 4.0 is `/dev/rmt0h` (rewind) and `/dev/nrmt0h` (no rewind). The tape drive must be set to SCSI ID 5 or the system may panic.

3. The `Installation Log` only logs segment processing for the last segment(s) selected from the current installation.
4. No help options are available.
5. Disk space is not checked on `/h/data/global` when installing a global data segment.
6. NIS and Domain Name Service (DNS) servers are not updated when processing the `Network` descriptor.
7. The `$HOME_DIR` keyword in the `Requires` descriptor is not processed.
8. In order for network installation to work, the `/h/data/global` directory must be mounted from a machine that has been designated as the network installation master. If the `/h/data/global` directory is not mounted, then the `Disk Manager` must be used to export it from the machine that has been designated the master to the machine that needs to mount it. In addition, the machine that the segments are being installed from must be in the target machine's local host file or, if the machine is running DNS, the machine must be in the DNS file.
9. The Network Installation Server does not automatically export the disk partition that is loaded with segments. This partition must be exported explicitly using the `Disk Manager`. If the machine is the network installation master and also has segments loaded on it under the partition that contains `/h`, then this partition should be exported without exporting `/h/data/global`.
10. No information appears in the `Update Security Database` window. The operator must close the window manually in order for the installation to continue.
11. Refreshing the `Installer` window takes progressively longer depending on the number of installed segments. At certain times during the installation, it is possible that no window may be present. Regardless of whether or not the window is present, the installation is still progressing.

12. If the `REMOTE` option is chosen from the `Select Source` window, you cannot use the `HOSTS` list from the `NAME` toggle when `DNS` is running. The `Read Contents` will fail. The workaround is to type the host name in the `HOSTS` field without the domain extension instead of selecting a host from the `HOSTS` list.

COEAskUser, COEInstError, COEMsg, COEPrompt, and COEPromptPasswd

1. The `COEAskUser`, `COEInstError`, `COEMsg`, `COEPrompt`, and `COEPromptPasswd` tools support multi-line text. The following example uses the `COEMsg` tool to show how to display text over multiple lines:

```
COEMsg "this is line 1 \  
This is line 2 \  
This is the 3rd line"
```

2. The `COEInstError` process presently does not stop the processing of an installation. It will display an installation error message and return a `-1` status code to the calling process. The calling process (i.e., `PostInstall`) must perform any cleanup to return a failed error status to the `COEInstaller`, which can then stop the installation.

COEUpdateHome Tool

1. `COEUpdateHome` must be run from within the directory of the script that the user is trying to update (typically the segment directory).

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